

Background information—not presented during session

NFPA and Using CHP to Supplement Emergency Power

Dan Chisholm, Principal
Motor and Generator Institute

NFPA 99, 4.4.1.1 On-Site Generator Set

4.4.1.1.1* Design Considerations. Dual sources of normal power shall be considered but shall not constitute an alternate source of power as described in this chapter.

*A.4.4.1.1.1Facilities whose normal source of power is supplied by two or more separate central-station-fed services (dual sources of normal power) experience greater reliability than those with only a single feed...

NFPA 99, 4.4.1.1.4

Essential electrical systems shall have a minimum of two independent sources of power: a normal source generally supplying the entire electrical system and one or more alternative sources for use when the normal source is interrupted.

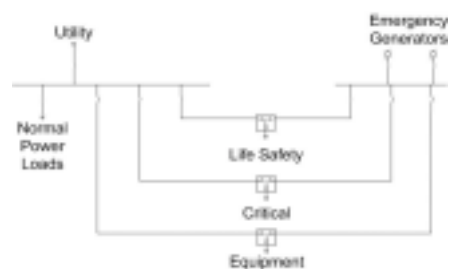
NFPA 99, 4.4.1.1.6

Where the normal source consists of generating units on the premises, the alternate source shall be either another generating set or an external utility service

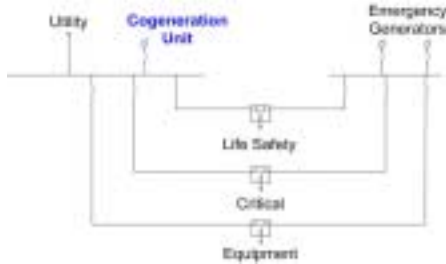
NFPA 99, 4.4.1.1.8.3

Optional loads *shall be permitted* to be served by the essential electrical system generating equipment. Optional loads *shall be served by their own transfer means* such that these loads shall not be transferred onto the generating equipment if the transfer will overload the generating equipment and *shall be shed* upon a generating equipment overload. Use of the generating equipment to serve optional loads shall not constitute "other purposes" as described in 4.4.1.1.8.1 and therefore *shall not require multiple generator sets*.

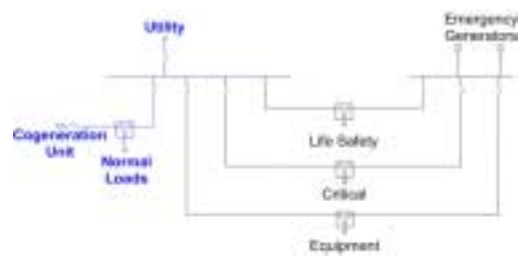
Healthcare Electrical Distribution System



Option #1 Parallel to Utility



Option #2 Segregate Normal Loads Via Transfer Switch



Option #3 Parallel to Emergency Generators



States Differ



Option #4 Parallel to Utility and Emergency Generators

